ISD
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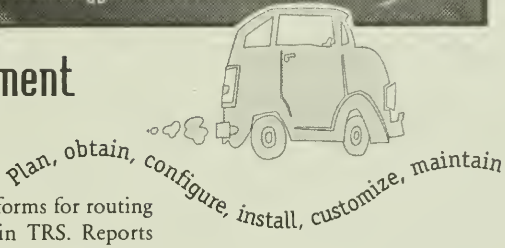
A Newsletter Dedicated to Information Technology in the State of Montana

Electronic Document Management and Imaging (EDMIS) Update


Plan, obtain, configure, install, customize, maintain

The State of Montana's EDMIS Committee has awarded a two-year contract (with four two-year options) to KPMG for imaging and document management. KPMG will help each organization plan, obtain, configure, install, customize and maintain EDMIS systems. All state agencies are encouraged to use this vehicle for obtaining these types of services.

Current efforts underway on this contract are:

Teacher's Retirement System: KPMG performed an initial study of the TRS operations and systems and delivered a report that provides the foundation for an EDMIS system. KPMG will procure the hardware and software for configuring, installing and implementing this EDMIS system which will include imaging, Optical Character Recognition (OCR) and Intelligent Character Recognition (ICR) based data capture, e-mail based workflow, and Computer Output to Laser Disk (COLD). Scanners will input TRS forms and automatically capture key information using OCR to read typed documents and ICR to read handwriting. After indexing, documents will be stored on hard drives for later retrieval. TRS will be able to easily attach documents to use workflow forms for routing documents within TRS. Reports from the TRS VMS database will be stored in a COLD server for rapid retrieval and routing.

Department of Public Health and Human Services: KPMG performed an initial study of the DPHHS Child Support Enforcement Division which analyzed the Division's current operations and systems. Based on this study, KPMG is preparing a report stating how an EDMIS system can help improve the efficiency and reduce the operating costs of the division. The report will also include a design and price quote for a proposed EDMIS system as well as a return on investment analysis.

Department of Transportation: KPMG has performed an initial study of DOT's Right of Way Division, which identifies how imaging and document management can improve the efficiency and effectiveness of managing the three million documents necessary for identifying excess land sales. KPMG has also analyzed the Department's accident reports. The report will also include a design and quotation of a proposed EDMIS system as well as a return on investment analysis.

For more information contact Brett Boutin of the Policy, Development and Customer Relations Bureau at 444-0515, ZIP! or e-mail at bboutin@mt.gov.

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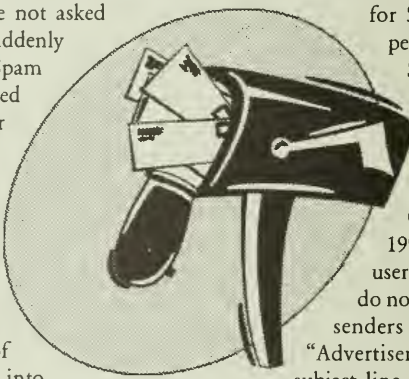
No Spam Please!

According to some estimates, there are 50 million Americans with Internet accounts. Nearly all of these accounts have e-mail service. It costs virtually nothing to send an e-mail through the Internet and there is currently no meaningful regulation of e-mail. These statistics cause a major problem for e-mail accounts. This problem is referred to as spam.

Spam, unsolicited commercial e-mail (UCE), is a growing problem on the Internet. If you have used the Internet for any length of time, you have probably received solicitations via e-mail to purchase products or services. You have not asked for the information, it just suddenly appears in your e-mail in-tray. Spam has caused a new epidemic referred to as Polymailaphobia (the fear of receiving more than 15 e-mail messages per day), and causes some users to waste many hours going through unwanted mail.



With one simple e-mail account, a junk e-mailer can send one message to millions of recipients, turning that message into hundreds, even thousands of megabytes of data. While it may only cost a junk mailer a tiny amount to send the UCE, it costs individuals and their Internet Service Providers countless millions of dollars in lost time, lost money, extra staff hours, damaged equipment, lost productivity, and lost business opportunities. And it's pretty aggravating, too. Senders commonly relay messages through well-known, trusted Internet servers so that when they are delivered to their final destinations, they appear to originate from a trusted host, and therefore, you think they are valid messages, until you read them.

If you receive Spam, here are a couple of suggestions:

- Never respond positively to a spam e-mail. For a spammer, one "hit" among thousands of mailings is enough to justify the practice. Instead, if you want a product that is advertised in a spam e-mail, go to a Web site that also carries the product, inquire there, and tell them you do not approve of spam methods and will not patronize a company that uses spammers.
- Never mail-bomb spam sites or engage in hacking to stop spammers. This only increases the amount of wasted Internet traffic, creates sympathy for spammers, and makes the Internet less reliable than it already is.

Current federal law (47 U.S. Code, Section 227) states that it is unlawful "to use any telephone facsimile machine, computer, or other device to send an unsolicited advertisement" to any "equipment which has the capacity (A) to transcribe text or images (or both) from an electronic signal received over a regular telephone line onto paper." The law allows individuals to sue the sender of such illegal "junk mail" for $500 per copy. Most states will permit such actions to be filed in Small Claims Court.

There is also other legislation being processed through Congress pertaining to spam. Senate Bill 771, the Unsolicited Commercial Email Choice Act of 1997, provides a means for Internet users to filter out e-mails that they do not wish to receive by requiring that senders of unsolicited e-mails include "Advertisement" as the first word of the subject line and that the real street address, e-mail address and a telephone number be contained within the body of the message. Routing information that accompanies the message must also be accurate.

Senate Bill 875, Electronic Mailbox Protection Act of 1997, prohibits senders from directing messages to anyone who has asked not to receive any more mail from that source, either by replying to a message or by providing prior notice that such messages are unwanted. It prohibits senders of unsolicited mail from disguising their identity, registering multiple domain names or e-mail accounts, using fictitious domain names or using any other method for the purpose of preventing recipients from replying to the message or using mail filtering tools. And it also prohibits the use of a computer program to "harvest" a large number of e-mail addresses from online services with policies against this practice.

In the future, our e-mail system will be able to filter out much of the junk e-mail. But for now, just delete it and do not respond to it. For more information regarding spam, contact Lynne Pizzini, Network Security Officer at 444-4510 ZIP! or e-mail at lpizzini@mt.gov.

Desktop Alert! A Special Announcement will be published this month to detail the new desktop software standards. Watch your mailboxes for this critical late breaking news!

Calendar of Events

February 4
Information Technology Managers Council (ITMC) 8:30-10:30am, Rm 111, Metcalf Bldg.

February 19
Public Safety Communications Council
9am-3pm, Location TBA

February 25
Montana Geographic Information Council (MGIC) 9:30am-2pm, Location TBA

February 26
SummitNet Executive Council (SEC)
1:30-4pm, DPHHS Auditorium-METNET Site

March 4
Information Technology Managers Council (ITMC) 8:30-10:30am, Rm 111, Metcalf Bldg.

March 11
Information Technology Advisory Council (ITAC) 8:30-12pm, Rm 111, Metcalf Bldg.

MT PRRIME

The Budget Module of the new state business infrastructure will be implemented on May 1, 1998 just in time for integration with the Executive Planning Process. It will mean greater flexibility and efficiency for those preparing the state budget for the 2000-2001 biennium.

- It is specifically designed to prepare budgets, on line, for submission to the legislature.
- It tracks the budgets through the legislative process.
- Once the budget is finalized and approved by the legislature, it can be easily transferred to the General Ledger for account management.
- The budget can be, at a minimum, viewed throughout the development and approval process.

Currently budget development is cumbersome at best. This is generally how the budget is constructed:

- Lotus spreadsheets are used to build the dollar portion of the budget.
- Narrative (explanation and justification) explaining the budget is prepared with WordPerfect.
- Once each bureau, division and, finally, department completes its preparation and in-house approval, the separate narrative and budget documents are submitted to the Office of budget and Program Planning (OBPP).
- The OBPP works with the agency information and develops the Executive Budget recommendation.
- The Legislative Fiscal Division (LFD) analyzes the Executive recommendation and produces the Governors Budget/Legislative Budget Analysis publication.

The downside of this method is pretty obvious. It's difficult, if not nearly impossible, for departments to truly prepare and analyze budget proposals when information is kept on separate documents. There is limited system capability for electronically conducting what-if scenarios. The current budget development process can't be queried and budget details are just not readily available to agencies or the public.

If you've ever been associated with preparing the state budget, you know that a tremendous amount of energy is expended. It involves not just budgeteers (accounting people, bureau chiefs, and division administrators) but also those in the trenches. Individual expertise for specific programs is required in order to plan for the future. Documentation is prepared by specialists that explains and/or justifies why funding must be provided for a particular service. That's just the beginning, it then goes up the line.

Even though all this work has been conducted by the agencies, they don't receive the final combined budget for up to eight months. The OBPP and LFD work furiously to combine the information, but it takes time. Thousands of hours are spent refining, combining and preparing the published budget for legislative consideration. The resulting inefficiency is the rule rather than the exception.

The new Budget Module not only provides for the numbers building, it also does a lot more:

- Allows for on-line budget development within agencies, by responsibility center level (even at the bureau level),
- The system includes tremendous analytical capability that can provide, at a minimum, multiple versions of budgets for what-ifs and other options
  - canned reports
  - budget approval
  - budget monitoring
  - audit trails of changes
  - accounting entity balances
- The system provides real-time access to statewide information.
- Point-in-time narratives and numbers can be reported throughout the budget development process.
- It has the ability to record and maintain sources of state and federal funding as well as build revenue estimates.
- It can record and maintain grant information and financing.
- It will record and track fiscal notes and "cat and dog" (outside normal state budget bill) appropriations.
- It has the functionality for rate development and review as well as integration into budgets.
- The Executive Planning Process (EPP) will be done on-line, no more binders.
- It has the ability to calculate the Pay Plan figures (base vs. pay plan) and integrate the two.
- It has the ability to record capital projects and major maintenance programs.
- It contains a check list menu screen that allows the user to indicate when the budget is done and can be submitted.

Mt PRRIME

And that's only some of what the module can do. The beauty of the system lies in the simplicity of the budget development.

What's ahead?

By the end of January, the Executive Planning Process module is expected to be complete and user/training manuals will be drafted. We know there are approximately 233 individuals that need to understand budget system functionality. A tentative training schedule is listed below:

February	EPP training provided to Agency Chief Budgeteers, OBPP, LFD and the University Systems. Capital Projects training provided to capital project users, OBPP, LFD and the University Systems.
April	Prototype testing by LFD and OBPP.
Early May	Module training provided to LFD and OBPP.
Late May	Module training provided to Agency Budget Coordinators and the University Systems.
Early June	Module training to agency budgeteers.
Fall	Fiscal Note training.

We'll keep you updated on what's happening in the world of budget development. There will be changes in some of the ways that have been used for years. Stay tuned. We think you'll like what you see! If you have any questions contact the following MT PRRIME members: Steve Bender at 444-0306, ZIP!, or e-mail at sbender@mt.gov; Mary Longmaid at 444-5347, ZIP! or e-mail at mlongmaid@mt.gov; or Sylvia Weisenburger at 444-5796, ZIP!, or e-mail at sweisenburger@mt.gov.

Year 2000 Update

Progress Report

How is the State of Montana doing on finding and fixing Year 2000 problems? The Year 2000 Compliance Reporting System, which enables each agency to input their progress on Year 2000 compliance efforts, is up and running. The latest results from this system indicate that there are 729 software systems with Year 2000 issues (does not include the University System) and of these, 241 systems are currently compliant. This compares with 238 that were targeted by agencies to be compliant by January 1, 1998. We are on schedule. See Figures a and b.

Spreadsheets

Most of the year 2000 interest has been directed at the large mainframe systems since that is where the problem is the most prevalent and the results of a failure can be the most serious. However, the "Millennium Bug" can cause you problems in such seemingly innocuous places as your favorite spreadsheet applications. It has now been documented that when you cut and paste date sensitive fields from one spreadsheet program into another (say from Lotus 1-2-3 to Microsoft Excel) that the results may appear to be accurate but the actual computations may well be erroneous. This occurs because different spreadsheet programs use different logic on how to interpret years displayed with only two characters (referred to as windowing). So, although this example is not likely to be "mission critical" it is illustrative of the insidious nature of the Year 2000 issue and should serve as a warning not to assume everything is fine on your PC simply because the BIOS checks out.

The Countdown Continues

While it may appear that we have almost two full years left to fix our Year 2000 problems, we don't. Most experts recommend that organizations spend nearly 50% of their Year 2000 remediation efforts on thoroughly testing fixes, so fixes need to be done by January 1,1999 to provide a full year for testing. Therefore, we really have less than a year, in fact we have less than 50 work weeks, to find and fix our Year 2000 land mines. The clock is running and we can't slow it down, or as Year 2000 guru Peter de Jager recently put it, "Our systems are broken. The next time you see a Christmas tree, will your systems be fixed?"

For more information please contact Scott Lockwood, Year 2000 Compliance Officer, at 444-2655, ZIP! or e-mail at slockwood@mt.gov.

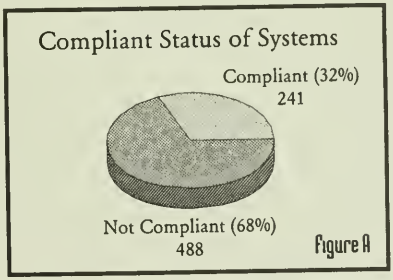


Figure A

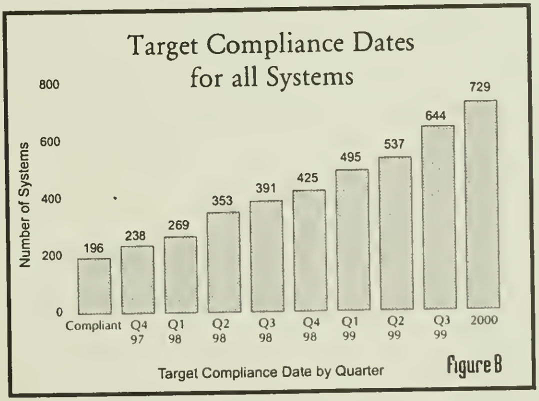


Figure B

Oracle Apps Y2K Compliant?

The Oracle database is Year 2000 compliant. We can store any date within the range from January 1, 4712 BC up through December 31, 4712 AD. So what is all this concern about the Year 2000? The database will store any date, but what is it saving? Your application may not be storing the dates you intended. Let's review our applications and discuss date format masks and the default date format.

Oracle uses its own internal format for storing dates, but conceptually you can think of it as storing each date in the format YYYY-MM-DDHH24:MI:SS. The database is considered Y2K compliant because it uses the four digit century. If your application utilizes a date format with only 2 digits such as MM-DD-YY things could get messy because the century digits are implied. The question arises as to what is actually being stored as the century. This is where the 'default date format' comes in. The standard 'default date format' that Oracle uses is DD-MON-YY and the YY refers to years in the current century. If you are allowing entry of two digit years in your application, you must assume that the century value is always '19'.

Changing the default date format

The default date format can be changed at both the session and the instance (or server) level. Changing the default format at the instance level causes the default to be changed for all the sessions connecting to the database. At the session level the default date format can be altered two ways. One way is by executing the ALTER SESSION command. Such as:

```
SQL> ALTER SESSION SET NLS_DATE_FORMAT
= 'MM/DD/YYYY';
```

The other method is not actually session dependant but client dependant and is for Windows clients only. The session date format for the client can be assigned in the Windows 95 clients' registry by setting the HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE key NLS_DATE_FORMAT to a desired value. For Windows 3.1 clients you would add the equivalent statement to the clients' Oracle.ini file.

At the instance level the default date format can only be altered by a DBA and it is done by changing the NLS_DATE_FORMAT parameter in the initialization file (init.ora). The syntax is :

```
NLS_DATE_FORMAT = "MM/DD/YYYY"
```

The default date parameter can be set to any valid date format mask. The parameter is not present in the default init file at database creation time and must be added. The database relies on the default date format (DD-MON-YY) provided by the NLS_TERRITORY parameter file until changes in the init.ora file override it.

Possible fix?

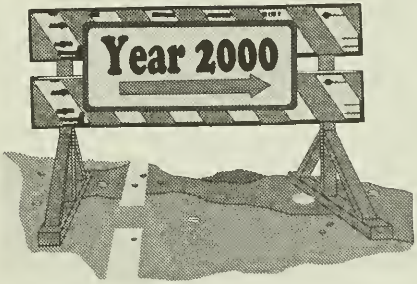
Once we have identified our problem applications we may have to rewrite the code, BUT there is a fix that may prevent minor rewrites. If in fact your application commonly deals with twenty-first century dates there is a date format that may provide a convenient alternative. DD-MON-RR is a date format that can replace the standard default. The RR interprets century data in this way: If the current year is between 50 and 99 and likewise the input data is also in this range then it assigns the value of '19' to the century. If the data is between 00 through 49 it assumes a century of '20'. After the big day when the current year date will be in the range 00-49 it interprets year data between 00 and 49 to be in the current century (20), but year data in the range of 50-99 will be assigned the prior century value of ‘19’.

Character data

Another idea we must take into consideration is the fact that some date information is stored in character data type fields. We have a script that will examine column names in the database based on keyword comparisons. If a keyword match is found (IE. ‘Date’, ‘DT’, ‘time’ or any user defined string), a sample of the data is selected for closer evaluation. The script is simple but can generate considerable output and must be run with the “select any table” privilege.

```
set heading off
set feedback off
set pagesize 800
set linesize 256
set echo off
break on owner on table_name
spool c:\data\oracle\scripts\query_suspects.sql
select ‘select ‘ || column_name || ‘ from ‘ || owner
|| ‘.’ ||
    table_name || ‘ where rownum < 10 and ‘ ||
    column_name || ‘ is not null;’
from all_tab_columns
where (column_name like ‘%DATE%’
or column_name like ‘%TIME%’
or column_name like ‘%MON%’
or column_name like ‘%YR%’
or column_name like ‘%DAY%’
or column_name like ‘%DT%’)
and data_type != ‘DATE’
and owner != ‘SYS’
and owner != ‘SYSTEM’
and owner != ‘SYSCASE’
order by owner, table_name, column_id
/
spool off
set echo on
set heading on
set feedback on
spool c:\data\oracle\scripts\suspect_details.lst
@c:\data\oracle\scripts\query_suspects.sql
spool off
```

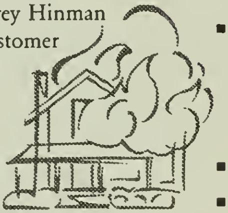
Questions about checking Oracle applications for Year 2000 compliance should be directed to Dave Howse of the Systems Support Bureau at 444-1593, ZIP! or e-mail at dhowse@mt.gov or Tony Noble of the Systems Support Bureau at 444-2922, ZIP! or e-mail at tnoble@mt.gov.



Computing Policy Update

A draft policy is currently under review by the Information Technology Advisory Council (ITAC) titled Internet Services. The policy addresses general acceptable use issues, copyright laws and agency's responsibilities related to the Internet. It provides an extensive guideline section with recommendations for agencies for creating their own Internet policies. The draft policy was created by the ITAC Internet Policy Advisory Task Force, chaired by Scott Buswell. The Task Force was comprised of representatives from 18 different state agencies. You can find this draft policy at http://www.mt.gov./isd/policies/int/int010.htm. You can find existing *Enterprise Computing Policies* on the web at http://www.mt.gov./isd/policies/policies.htm.

For more information contact Audrey Hinman of the Policy, Development and Customer Relations Bureau at 444-1635, ZIP! or e-mail at AHinman@mt.gov.



Disaster Recovery

The Garfield County Courthouse was destroyed by a fire the weekend after Christmas. Before the embers had cooled, county, state and private sector vendors were working together to reestablish communication services supporting the Criminal Justice Information System, Motor Vehicle registration and Property Appraisal systems.

In three days, during an abbreviated holiday work week, a new site was selected, cabled, communications services moved, gateways and terminals installed, and services were once again available to county residents.

ISD personnel, along with Department of Justice and Department of Revenue employees, set aside individual department needs to respond to the needs of the Garfield County residents.

According to Carl Hotvedt, Chief of ISD's Telecommunications Operation Bureau; "The ability of multiple departments to work as a team in responding to Garfield County's needs on short notice is what makes working in state government so satisfying."

ISD to Implement Service Center Release 2.0

ISD has purchased a new problem/change/inventory tracking system known as ServiceCenter, a Peregrine Systems' application. Since last August, we have had Release 1.4 of the Problem Module in place and have been massaging the product to best fit our customers' needs.

Peregrine Systems has now deployed Release 2.0 of the product which is a much improved application and encompasses many features attractive to ISD. We are pleased to see several enhancements to the product which we feel will be beneficial to our user community as well. Some of these newly developed features include:

- Assigning the problem ticket number in the beginning rather than the end; this gives the end user a ticket number without having to hang on the phone while the technician enters all pertinent information;
- Improved search capabilities;
- Streamlined screens for easier input;
- Improved sorting ability; and
- An Inbox feature which functions like a macro or bookmark for performing repetitive search functions.

Because Release 2.0 is a rather major rewrite of the product, ISD plans to implement Release 2.0 on a pilot project basis only on February 2, 1998. This will delay our application availability target date for other state agencies. This is necessary to ensure a quality product that has been tested and found to have ease of use and contains elements essential to a first rate problem tracking system.

A Service Center Management Team will continue to work with Peregrine Systems to get Release 2.0 up and running smoothly. Once the product is ready for introduction to our user community, we will move forward with meetings and discussions with our user groups to develop a deployment plan.

For additional information contact Barb Sheline of the Telecommunications Operations Bureau at 444-4909, ZIP! or e-mail at bsheline@mt.gov.

SBAS Reports on RDS

Over the past couple of years, many users have expressed an interest in accessing SBAS reports via INFOPAC-RDS. Good news! Month end SBAS reports are now available on RDS. A separate RDS report has been defined for each agency. This report contains all the individual SBAS forms for that agency. The REPORT ID for each report is the agency number. Each report is indexed by the "SBAS FORM" making it easy to locate a specific form. Within each "SBAS FORM", the report is further indexed either by "ENTITY" or by "RESPONSIBILITY CENTER", depending on which value is contained in that particular form.

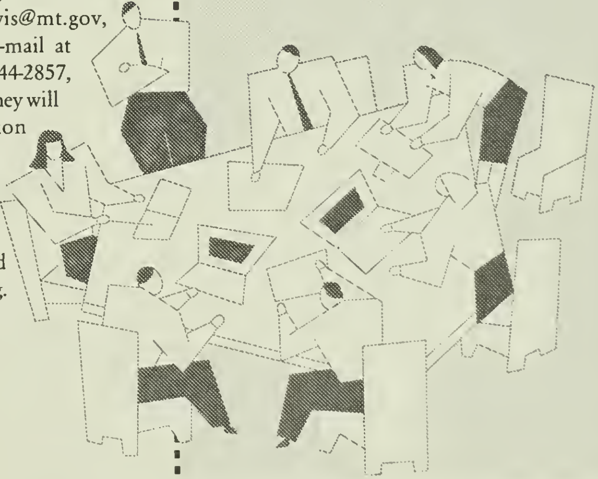
As a default, these reports will remain in an "AVAILABLE" status for 35 days from the date that month end SBAS processing occurs. After this time, they will be archived to tape from where they may be recalled to be viewed and printed. Retention time on tape is five years. Upon request, an agency may keep their report in an "AVAILABLE" status longer than 35 days. The agency will be billed for disk storage beyond 35 days. The November 1997 and December 1997 reports have been captured on RDS and, by the time you read this article, January 1998 reports should also be available.

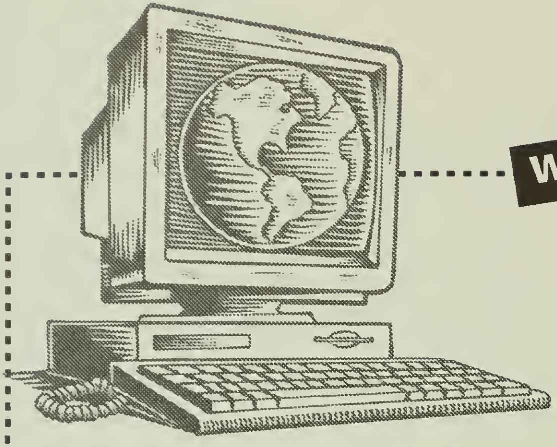
We believe RDS will provide an ideal alternative to Computer Output Microfiche (COM) and hard copy as a means to access SBAS reports. But access to these reports is not automatic. To gain access to your agency's report, please contact Jan Lewis at 444-2901, ZIP!, or e-mail at janlewis@mt.gov, Diane Haun at 444-3336, ZIP!, or e-mail at dhaun@mt.gov, or Dave Smith at 444-2857, ZIP!, or e-mail at davsmith@mt.gov. They will prepare the appropriate authorization forms which will then be sent to SBAS Support Unit for approval. These same three people can also assist you with your RDS training needs and address any general questions related to ISD's automated report processing.

ITMC ◦ January Meeting

The Information Technology Managers Council (ITMC) meets monthly to review information technology issues that affect state government. The group continues to be updated on desktop suite and MT PRRIME issues each month. In addition, the group heard a presentation on the network services covered by the monthly data communications rate. New changes to the statewide Bulletin Board System were highlighted. The group approved an Executive Board recommendation to direct ISD to renew the PC term contracts. Their recommendation to ISD on the printer term contract was to rebid the contract to provide more vendor and product choice.

Full minutes of the meeting are available on the ISD Value Added Server (VAS) at **guest:/itmcinfo/minutes98** or from Kim LaRowe of ISD at 444-2700, ZIP! or e-mail at klarowe@mt.gov.





Web Services

E-mail Services

Domain Name Services (DNS)

You may have heard about the impending change to our DNS for the network. The following information is intended to clarify where we are, and where we are heading. The Internic (management body for Internet addressing) is encouraging the state to convert to the "state.mt.us" domain. Montana is only one of two states still registered under the ".gov" domain today. The Internic has agreed to grandfather the "mt.gov" domain for the time being.

Web Services

We have registered the new "state.mt.us" domain with the Internic. We have set up our primary and secondary directory servers to translate on either domain name. Leo Rogge of our Wide Area Network staff is working with agency staff to list WEB servers under both domain names. Both domain names will be recognized and are usable for an indefinite amount of time.

E-mail Services

Internet e-mail names are a different story. We will need to wait until an e-mail product is chosen before we can develop a migration strategy for directory purposes. It will be our objective to define a plan that gives agencies several years to complete the conversion from one domain name to the other. This will likely include duplication of addresses similar to what we are currently doing with the WEB servers.

Agencies do not need to change letterhead or business cards at this point in time. At some time in the future this will need to be done, but we will continue to work with the Internic to ensure an adequate time interval is provided.

If you have any questions on this issue, please contact Leo Rogge of the Telecommunications Operations Bureau at 444-4502, ZIP! or e-mail at lrogge@mt.gov.

Speedy Fractions and WP Character Shortcuts

Speedy Fractions

QuickCorrect is a great time saver by making sure that whenever you type a 1/2, it is automatically replaced with ½, the correct special character. So how do you get *all* fractions to do that?

You can set up QuickCorrect to automatically replace fractions that have corresponding characters in the WP Character sets, such as ¼ and ⅝. First, choose Tools, QuickCorrect. In the Replace text box, type the text you want to replace, such as 1/4. Then place the insertion point in the With Text box. Press (Ctrl+W) to display the **WordPerfect Characters** dialog box. From the Character Set pop-up menu, choose Typographic Symbols, which contains all the available fractions characters. Select the fraction character you want in the Characters list box, such as ¼. You might need to use the scroll bar to see additional characters. With the character selected, choose Insert And Close to insert the character in the Replace text box. Choose Add Entry to add this to your QuickCorrect list.

Repeat these steps to create QuickCorrect entries for any other fractions that you use frequently. There are nine fraction characters available in the Typographic Symbols character set: ½, ¼, ¾, ⅓, ⅔, ⅛, ⅜, ⅝, and ⅞. Make sure Replace Words As You Type is marked, then choose Close from the **QuickCorrect** dialog box when you're finished. Then whenever you type the fraction text, such as 1/4, and press (Enter) or (Space Bar), WPWin automatically changes it to the correct fraction character.

WP Character Shortcuts

To insert a special WP character, such as é, in your document, most users press (CTRL+W) and search through the various character sets until they find the character they want. There is a faster way that eliminates the need to search through the character sets. Many common special characters have a "shortcut" to insert them that is a lot easier to remember than the character set or character number.

The shortcut is two keys that are elements of the desired character, such as *e* and ʻ for *é* and *L* and - for *£*. Table 1 shows several of the shortcut keys for special characters. Most of these combinations are intuitive based on the character you want, so it is not hard to remember them.

Table 1-These are some of the shortcuts available for inserting WP Characters. Just press (Ctrl+W) and type the two characters on the left, then press (Enter) to insert the character on the right. Some of the shortcuts for multinational characters work with multiple letters, such as á, é, and í.

(Ctrl+W) Shortcut	Result
a'	á
ev	
I^	î
e'	è
u_	
o"	ö
ao	å
o/	ø
n~	ñ
c,	ç
AE	Æ
ss	ß
L-	£
P|	¶
Y=	¥
c/	¢
+-	±
<=	
<<	«
tm	™
sm	
ro	®
co	©
rx	
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/4	¼
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f-	ƒ
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!!	¡
N-	–
m- or –	—

To use a shortcut, press (Ctrl+W) and type the two shortcut keys, such as *e'* or *L-*. It doesn't matter what order you type the characters and you don't even need a comma between them. Then press (Enter) and the character is automatically inserted into your document and the dialog box is closed. This approach can help to speed up typing and make your job easier!

This article was reprinted in part from the June 1997 issue of *WordPerfect for Windows Magazine*. For more information concerning this article, contact Irvin Vavruska of End User Systems Support at 444-6870, ZIP!, or e-mail at ivavruska@mt.gov. For questions about WordPerfect, please contact your agency support staff, WordPerfect's Help Feature, or the ISD Customer Support Center at 444-2000.

Custom Image Lists in Corel PHOTO-PAINT 7

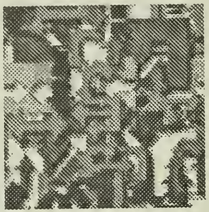
CorelDRAW! 7's PHOTO-PAINT module now includes a unique new tool called the Image Sprayer . This tool will apply images that follow the trail of your brush stroke across an image. The images that the Image Sprayer uses are stored in an Image List. In this example, you'll discover how surprisingly easy it is to create a custom Image List and use it to create a seamless tile.

1. Start with a new file, 200x200 pixels in 24-Bit RGB Color. First, you'll create your objects using the Type tool and a Dingbat (or symbol) typeface. In the arrows and stars examples on this page, I've used the Zapf Dingbat typeface, included with CorelDRAW! 7. I varied the size and the color of the symbols. As you create each symbol, Corel will automatically create it as an object.

2. Once the assortment of symbols (Example A) is created, select View/ Objects to view the Object roll-up. Select all of the objects by shift-clicking on each object icon on the object roll-up. Or you may use the Object Picker tool to marquee the entire image, thus selecting all of the objects. Once you have selected all the objects, select Object/Drop Shadow, with the following settings: Horizontal 4, Vertical 4, Feather 2, Direction Inside Opacity 60. Each object will then have its own drop shadow.

3. Double click the Image Sprayer tool to open its Tool roll-up. Then click on the flyout menu and select Save Objects as Image List. You now have a custom Image List that you can use for any project.

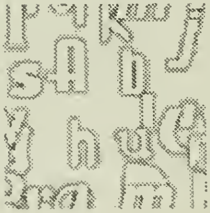
4. Now, to create your seamless pattern tile (Example B). Start with a new file, 100x100 pixels in 24-Bit RGB Color. Select the Image Sprayer tool and cover the entire image. Next, select Effects/2D/Offset with the Horizontal and Vertical values set to 50, and the Wrap Around radio button selected. Clean up the visible seam by clicking the Image Sprayer to cover any visible edges. The following stars (Example C) is a seamless tile which was created. You can see, using the Image Sprayer creates a very full, busy background. You can also create stripes of images across the tile to create a simpler, more geometrical appearance by holding down the Control key while you use the Image Sprayer, as in the small stars example.



Example A

Example B

Example C



Example D

Example E

The alphabet (Example D) was fun to create. Each letter was created individually using the Text tool, with white as the paint color. A different typeface was used for each letter. All of the objects were selected, and Object/ Drop Shadow was applied with the following settings:

Horizontal 0, Vertical 0, Feather 4, Direction Middle, Opacity 100, Color Custom, with a dark blue color selected.

The last one (Example E) was created by selecting clipart from CD number 3. The clipart was pasted into a new larger blank image. The clipart was transformed into objects by selecting the background with the Magic Wand tool. Then, Mask/ Invert was applied, and Object/Create From Mask. Mask/Invert were selected. Effects/Fancy/The Boss was used with the bevel set to 8. As a final step, Object/ Drop Shadow, with the settings Horizontal 4, Vertical 4, Feather 2, Direction Inside, Opacity 60.

Article adapted from an article by Laurie McCanna (mccannas.com); a computer graphic artist. For more information or questions, contact Jerry Kozak of End User Systems Support at 444-2907, ZIP! or e-mail at jkozak@mt.gov.

Windows 95/NT Freebies PrintNow and Unfrag

This month's free utilities are drawn from the *PC Magazine* download archives. Below are excerpts from the readme files that come with the programs.

About PrintNow

PrintNow is a 32-bit application that runs only under Windows 95 or Windows NT 4.0. It allows your PrtScr and Alt+PrtScr keys to print a screen capture directly to your printer instead of just copying the image to the Windows clipboard. PrintNow can also print any DIB image in the clipboard, regardless of its original source. PrintNow supports multiple instances, it can print multiple copies of a screen capture to the same printer with different print settings, to several different printers, or any combination thereof, with a single keystroke.

PrintNow places its icon in your system tray. Double-click the icon to activate the main dialog. The menu and dialog contain exactly the same controls and commands, so you can use whichever interface you prefer. Once running, pressing either PrtScr or Alt+PrtScr from the Windows desktop will activate PrintNow. PrtScr captures an image of the entire desktop, Alt+PrtScr captures just the currently active window. When launched with its default settings, PrintNow will present a standard Print dialog before printing begins so that you can change printer settings or cancel the operation, scale the image to fill as much of the page as possible, and center the image on the page.

PrintNow (Version 1.0) Copyright 1997 Ziff-Davis Publishing Company by Gregory A. Wolking, First Published in *PC Magazine* April 22, 1997.

Freebies

About Unfrag

If you're a Windows 95 or Windows NT user, you may be losing precious disk space without even knowing it. Most hard disks today contain compound files created by Microsoft Word, Microsoft Excel, and other applications that support Object Linking and Embedding (OLE). Compound files, when fragmented, can waste a lot of disk space. This free utility, which is named Unfrag to distinguish it from conventional hard disk defraggers, hunts down compound files and unfragments them for you.

When executed, Unfrag displays a simple dialog box. To begin the unfragging process, enter a file name or file name specification (for example, *.doc) in the Named box and a path name identifying a drive or folder in the Folder box. If you'd like UNFRAG to unfrag compound files in the specified folder and its subfolders, check the "Include subfolders" box. Then click the Unfrag button. As the unfragging process runs its course, UNFRAG keeps you apprised of its progress with a dialog box. Each time it identifies a compound file, Unfrag unfragments the file, compares the new file size to the old, and adds the difference to the "Bytes saved" value displayed in the dialog.

Unfrag (Version 1.0) Copyright 1997 Ziff-Davis Publishing Company Written by Jeff Prosise, First Published in *PC Magazine*, US Edition, December 16, 1997.

If you would like a copy of PrintNow or Unfrag the files are available on the ISD Value Added Server at:

\guest:\windows\winaddon\95addons\printnow
\guest:\windows\winaddon\95addons\unfrag

If you don't access to the VAS contact Denny Knapp of End User Support at 444-2072 ZIP!, or e-mail at dknapp@mt.gov.

Media Based Training [MBT] Course Series: LAN•WAN Internetworking

MBT is a convenient means of gaining additional knowledge and proficiency. You might use this newly learned information to better function in your current job or maybe it would qualify you for a new job. These courses are provided by ISD as a service to all state employees at no cost to you or your agency.

The courses are checked out for a two week period and most are delivered on a video tape but some are multi-media on CD ROM. The information is presented in a very professional manner using various teaching methods including diagrams and real life examples. The accompanying workbook provides the course in written form and after each section quizzes you on what has been covered.

Each month *ISD News & Views* will provide a description of a course and its modules along with degree of difficulty and prerequisites.

The entire list of courses can be found on the Value Added Server (VAS) at guest:\training\CT_Video\CBTcours.txt.

The course description of each course is currently only partially completed but can be found on the VAS at guest:\training\CT_Video\T3_VAS.rtf.

If you are an Approach user you can check out the current availability of any course by accessing the file on the VAS at guest:\training\CT_Video\videodb.apr.

Course Code: 2.01.01
Course Title: *Functions of Internetworking*

This course provides you with a historical overview of the trends leading up to internetworking as well as a review of basic networking terminology. The media choices available from Telcos and other suppliers are discussed, as well as the importance of standards. In addition, two important networking protocols: the TCP/IP protocol suite and the OSI model are covered in depth. Finally, the basic functions of repeaters, bridges, routers and gateways are discussed.

Prerequisites: A basic knowledge of *data communications.*

Technical Difficulty: 1 [✓ 2] 3 4 5

Estimated completion time of this course: 1 hour, 30 min (Video: 45 min + Workbook: 45 min)

Course Code: 2.01.02
Course Title: *LAN Configurations*

This course details the various types of LAN configurations and methods of access to the transmission media. Four different types of Ethernet LANs will be described. In studying Token Ring LANs, the "token" access method and the function of MAUs will be discussed. The benefits and limitations of FDDI will also be explored.

Several proprietary LANs such as MAP and PBX will also be covered. Efficient operation of a LAN requires management. *LAN Configurations* will cover the tools used for this purpose.

Prerequisites: *Functions of Internetworking* (2.01.01)

Technical Difficulty: 1 2 [✓ 3] 4 5

Estimated completion time of this course: 1 hour, 30 min (Video: 45 min + Workbook: 45 min)

Course Code: 2.01.03
Course Title: *Linking Devices: Repeaters, Bridges*

This course will introduce you to the devices which are used to link LANs together to form larger networks. You will first gain a detailed understanding of each of the seven layers of the OSI model and the role that these layers play in the transmission of a packet. Next, you will be introduced to the repeater and how it can be used to extend the physical length of a LAN.

You will also explore the various types and functions of bridges. You will see how these devices can be used to forward and filter traffic on a LAN and how they can be used to create WANs.

Prerequisites: *LAN Configurations* (2.01.02)

Technical Difficulty: 1 2 [✓ 3] 4 5

Estimated completion time of this course: 1 hour, 30 min (Video: 45 min + Workbook: 45 min)

Course Code: 2.01.04
Course Title: *Linking Devices: Routers, Gateways*

To properly understand the function of routers, the IP protocol must be examined in detail. This course examines the major fields in the IP header and how they assist the IP software in moving a packet across the Internet.

Next, you will look at the media that make up wide area networks and examine some of the protocols used over WANs.

You will also learn about gateways and how they are used to convert different protocols to allow communication between different computers. Finally, you will be exposed to "hybrid" devices such as brouters which, because they function at more than one level, are widely used in the industry.

Prerequisites: *Linking Devices: Repeaters, Bridges* (2.01.03)

Technical Difficulty: 1 2 [✓ 3] 4 5

Estimated completion time of this course: 1 hour, 30 min (Video: 45 min + Workbook: 45 min)

Course Code: 2.01.05
Course Title: *Transmission Using TCP/IP*

Transmission Using TCP/IP looks at how an Internet address is structured and how the Domain Name System provides user access.

TCP is explained in detail. TCP transmission is demonstrated in order to illustrate segmentation of the message, sequence fields, acknowledgments and retransmission. You will also see how UDP and ICMP protocols function. Then, you will learn how application software works in conjunction with other specific protocols. For example, you will find that SMTP helps send e-mail, FTP facilitates file transfer, and Telnet enables you to remotely login over a wide area network.

Prerequisites: *Linking Devices: Routers, Gateways before* (2.01.04)

Technical Difficulty: 1 2 3 [✓ 4] 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

Course Code: 2.01.06
Course Title: *Network Management: SNMP, OSI Based Systems*

Smooth LAN operation involves constant monitoring and the performance of several management tasks. This course introduces you to the various functions of a network management system (NMS) and how it communicates with remote agents. You will learn what a MIB and Agents are. You will also explore both TCP/IP and OSI based network systems and the hardware and the software used for each. Among the management software examined are SNMP, CMIS/CMIP and ICMP.

Overall, the information presented will provide you with a basis for management decisions in building a cost effective and efficient network.

Prerequisites: *Transmission Using TCP/IP* (2.01.05)

Technical Difficulty: 1 2 [✓ 3] 4 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

Course Code: 2.01.07
Course Title: *Advancements in LAN Technology*

LAN Technology has evolved greatly since the days of 10BASE-5. Most notable advances have taken place in the area of Hubs. SNMP for management and Switches to increase throughput are making Ethernet LANs more and more effective. But where do you place a Switch to optimize it's usefulness? And what, exactly, can SNMP based management do for you and what can't it do? These are some of the questions addressed in *Advancements in LAN Technology.*

In addition to learning about Switching, you'll also learn about Fast Ethernet, ATM for LAN and campus backbones, and some of the advancements in Token Ring technology. You'll also develop a working understanding of the terminology used in today's LAN environment.

Prerequisites: *Network Management: SNMP, OSI* (2.01.06)

Technical Difficulty: 1 2 [✓ 3] 4 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

Course Code: 2.01.08
Course Title: *WAN Developments and the Internet*

Today, few LANs operate in isolation. Nearly all have some sort of access to a larger, often global Wide Area Network (WAN). *WAN Developments and the Internet* is designed to bring you up-to-date with the equipment and protocols used in the wide area. We'll begin with a look at routers – a core component of any WAN. You'll see how they work, as well as learn methods used to optimize performance and reduce WAN traffic. Then we'll review some of the protocols used to access WAN services such as PPP and SLIP. You will study the structure of the Internet as well as how to implement access to it. Phone services available will be studied. Everything from POTS to digital connectivity methods such as ISDN, ATM, Frame Relay, and SMDS.

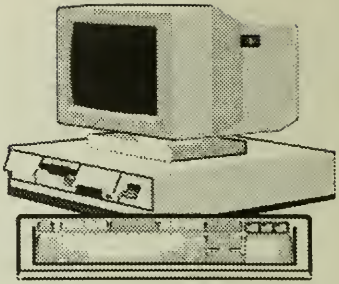
Prerequisites: *Advancements in LAN Technology* (2.01.07)

Technical Difficulty: 1 2 [✓ 3] 4 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

For additional information about MBT contact Trapper Badovinac at 444-4917, ZIP! or e-mail at tbadovinac@mt.gov.

HCT Supports MT PRAIME Training Needs



The coming Legacy Solutions and PeopleSoft modules will require competencies in Windows 95, Word and Excel. Training in these products (and one month's use of these desktop products) is recommended prior to employees attending module training.

The Helena College of Technology has scheduled additional classes in Windows 95, Word and Excel. These classes are particularly designed to facilitate the transition from Windows 3.1 to Windows 95; WordPerfect to Word; and Lotus to Excel. The class schedule is listed below.

All classes are $42.50 each.

Windows 95	Feb 3	8:30 - 12
Word 97	Feb 3	1 - 4:30
Excel 97	Feb 4	8:30 - 12
Windows 95	Feb 4	1 - 4:30
Word 97	Feb 5	8:30 - 12
Excel 97	Feb 5	1 - 4:30
Word 97	Feb 6	8:30 - 12
Excel 97	Feb 6	1 - 4:30
Windows 95	Feb 9	1 - 4:30
Word 97	Feb 12	8:30 - 12
Excel 97	Feb 13	8:30 - 12
Word 97	Feb 23	8:30 - 12
Excel 97	Feb 23	1 - 4:30
Windows 95	Feb 24	8:30 - 12
Word 97	Feb 24	1 - 4:30
Excel 97	Feb 25	8:30 - 12
Windows 95	Feb 25	1 - 4:30
Word 97	Feb 26	8:30 - 12
Excel 97	Feb 26	1 - 4:30
Word 97	Feb 27	8:30 - 12
Excel 97	Feb 27	1 - 4:30
Windows 95	Mar 2	8:30 - 12
Word 97	Mar 2	1 - 4:30
Excel 97	Mar 3	8:30 - 12
Windows 95	Mar 3	1 - 4:30
Word 97	Mar 4	8:30 - 12
Excel 97	Mar 4	1 - 4:30

Windows 95	Mar 5	8:30 - 12
Word 97	Mar 5	1 - 4:30
Excel 97	Mar 6	8:30 - 12
Windows 95	Mar 16	8:30 - 12
Word 97	Mar 16	1 - 4:30
Excel 97	Mar 17	8:30 - 12
Windows 95	Mar 17	1 - 4:30
Word 97	Mar 18	8:30 - 12
Excel 97	Mar 18	1 - 4:30
Windows 95	Mar 19	8:30 - 12
Word 97	Mar 19	1 - 4:30
Excel 97	Mar 20	8:30 - 12
Word 97	Mar 20	8:30 - 12
Excel 97	Mar 20	1 - 4:30
Windows 95	Mar 23	8:30 - 12
Word 97	Mar 23	1 - 4:30
Excel 97	Mar 24	8:30 - 12
Windows 95	Mar 24	1 - 4:30
Word 97	Mar 25	8:30 - 12
Excel 97	Mar 25	1 - 4:30
Windows 95	Mar 26	8:30 - 12
Word 97	Mar 26	1 - 4:30
Excel 97	Mar 27	8:30 - 12
Word 97	Mar 27	8:30 - 12
Excel 97	Mar 27	1 - 4:30
Windows 95	Mar 30	8:30 - 12
Word 97	Mar 30	1 - 4:30
Excel 97	Mar 31	8:30 - 12

Windows 95	Apr 1	8:30 - 12
Word 97	Apr 1	1 - 4:30
Excel 97	Apr 2	8:30 - 12
Windows 95	Apr 2	1 - 4:30
Word 97	Apr 3	8:30 - 12
Excel 97	Apr 3	1 - 4:30
Word 97	Apr 7	8:30 - 12
Excel 97	Apr 7	1 - 4:30
Windows 95	Apr 9	8:30 - 12
Word 97	Apr 9	1 - 4:30
Excel 97	Apr 10	8:30 - 12
Windows 95	Apr 14	8:30 - 12
Word 97	Apr 14	1 - 4:30
Excel 97	Apr 15	8:30 - 12
Windows 95	Apr 15	1 - 4:30
Word 97	Apr 16	8:30 - 12
Excel 97	Apr 16	1 - 4:30
Word 97	Apr 17	8:30 - 12
Excel 97	Apr 17	1 - 4:30
Windows 95	Apr 20	8:30 - 12
Word 97	Apr 20	1 - 4:30
Excel 97	Apr 21	8:30 - 12
Windows 95	Apr 21	1 - 4:30
Word 97	Apr 22	8:30 - 12
Excel 97	Apr 22	1 - 4:30
Windows 95	Apr 23	8:30 - 12
Word 97	Apr 23	1 - 4:30
Excel 97	Apr 24	8:30 - 12

Oracle Channel Schedule

March

3	Developer/2000 Release 2 New Features
4	Introduction to Web Application Server
5	Developer/2000: Deploy Web-Based Applications
10	PL/SQL 1: Coding Techniques
11	PL/SQL 2: Database Level Application Programming
17-18	Oracle 8 Architecture & Startup *PREMIERE*
19	Using Oracle 8 Replication *PREMIERE*
24	Introduction to Data Warehousing
25	Data Warehousing Fundamentals for DBAs
31	PL/SQL 8 New Features

April

1-2	Oracle 8 New Features
7	SQL 1: Retrieve Data
8	SQL 2: Define and Manipulate Data
9	SQL Statement Tuning
14	Object Technology Essentials
15	Designer/2000: Generate Web Applications
21	Oracle 8 Data & Security Management *PREMIERE*
22	Oracle 8 Backup & Recovery Strategies *PREMIERE*
23	Oracle 7 Performance Tuning Strategies
28	Developer/2000 Fundamentals
29	Developer/2000 Release 2 New Features
30	Developer/2000 Tuning

May

5	Designer/2000 Release 2 New Features
6	Object Database Designer: Build Your Oracle 8 Database *PREMIERE*
7	PL/SQL 8 New Features
12-13	Oracle 8 Architecture & Startup
14	Discoverer 3: Analyze Your Data Requirements
19	Financial Applications Release 11 New Features *PREMIERE*
20	PL/SQL 1: Coding Techniques
21	PL/SQL 2: Database Level Application Programming

Upcoming Oracle Channel Broadcasts

The Oracle Channel Satellite education program is available to state agency staff through the ISD Data Communication fee. These broadcasts are held from 9:45 am to 2 pm in the Department of Transportation Information Services Bureau conference room (basement).

Class descriptions are available on the Oracle education web site: http://education.us.oracle.com/education/toc/

To sign up for a class, send e-mail to Barbara Clark of ISD (ZIP! or baclark@mt.gov) at least two weeks in advance. Advance registration is necessary to ensure an adequate number of student materials is received.

Training Calendar

This schedule has been assembled by the Helena College of Technology of the University of Montana. If you have any questions about enrollment, please call 444-6821. All classes will be held at the Helena College of Technology at 1115 N. Roberts. Please note that costs are subject to change each July 1st.

The Helena College of Technology makes reasonable accommodations for any disability that may interfere with a person's ability to participate in training. Persons needing an accommodation must notify the college no later than two weeks before the date of training to allow adequate time to make needed arrangements. To make your request known, call 444-6821.

To enroll in a class, you must send or deadhead an enrollment application to the

State Training Center, HCT
Helena, MT 59601
If you have questions about
enrollment, please call 444-6821.

Once you enroll in a class, the full fee will be charged UNLESS you cancel at least three business days before the first day of class. HCT is also willing to schedule specific classes by request from state agencies.

Data Base Classes

Intro. to Oracle Prereq. Intro to Windows	March 16-19 (am)	170.00	2
Intro. to SQL Prereq. Intro to Oracle	March 23-26 (am)	170.00	2
Oracle Developer 2000, part I Prereq. Intro to Oracle & SQL	February 2-9 (am) March 31-April 2	284.95 Paid by ISD*	3
PL/SQL Prereq. Intro to Oracle & SQL	February 23-26 (am) April 13-14	170.00	2
Oracle Developer 2000, part II Prereq. Oracle Dev. I & PL/SQL	March 2-4 April 21-23	255.00 Paid by ISD*	3
Oracle Designer Prereq. Oracle Dev. I; PL/SQL recommended	February 12-26 (pm) (Not 2/16)	461.95 Paid by ISD*	5
Lotus Approach Prereq Intro to Windows	February 2	85.00	1

Data Network/Mainframe Classes

JCL	February 17-20 (am)	170.00	2

Microcomputer Classes

Windows 95 Conv. Prereq. familiar with Windows	March 5 (am)	42.50	.05
Windows 95	February 9 April 6	85.00	1
ZIP!Office	February 17 (pm) March 20 & April 10 (pm)	FREE	.33
WordPerfect 6.1 for Windows Prereq. Intro to Windows 3.1 or 95	April 6-7	170.00	2
WordPerfect 6.1 Conv. Windows Prereq. Intro to Windows 3.1 or 95	February 12	85.00	1
Word 7 Prereq. Windows 95	February 18 March 6 & April 8	85.00	1
Lotus for Windows Prereq. Intro to Windows 3.1 or 95	April 27-28	170.00	2
Lotus Conv. To Windows Prereq. Intro to Windows 3.1 or 95	February 13	85.00	1
Excel 7 Prereq. Winodws 95	February 19 March 30 & April 13	85.00	1
Internet Prereq. Windows 3.1 or 95	April 8-9	170.00	2
HTML Prereq. Windows 3.1 or 95	April 15-16	170.00	2

Prerequisites may be met with consent of Instructor

* The Oracle Designer and Developer class fees are recovered through the monthly data network rate.

ISD Class Enrollment Application

Complete this application IN FULL and return it
AT LEAST ONE WEEK prior to the first day of class.

COURSE DATA

Course Request: ____________________

Date Offered: ____________________

STUDENT DATA

Name: ____________________

Soc. Sec. Number (for P/P/P): ____________________

Agency & Division: ____________________

Mailing Address:

____

Phone: ____________________

How have you met the required prerequisites for this course? Explain, giving the class(s) taken, tutorial completed, and/or experience.

____

____

____

BILLING INFORMATION/AUTHORIZATION MANDATORY

User ID: _ _ _ _ _ _ Agency#: _ _ _ _

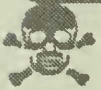
Authorized Signature: ____________________

Full class fee will be billed to registrant unless cancellation is made three business days before the start date of the class.

DEADHEAD COMPLETED FORM TO:

STATE TRAINING CENTER
HELENA COLLEGE OF TECHNOLOGY
OF THE UNIVERSITY OF MONTANA
PHONE 444-6800 FAX 444-6892

DeadHead BACK

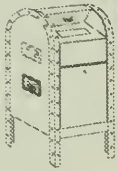


Dept. of Administration
Information Services Div.

FAX BACK

Information
Services Division
406-444-2701

MAIL BACK



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Information Services Division
PO Box 200113
Mitchell Building, Rm 229
Helena, MT 59620-0113

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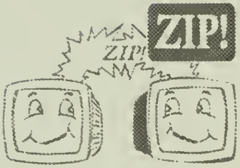

via ZIP!Mail,
ZIP!Office, TAO

Editor's Notes

Published By

ISD News & Views is published monthly by the Information Services Division (ISD), Department of Administration, Room 229, Mitchell Building, Helena, MT 59620, 406-444-2700, FAX 406-444-2701.

This newsletter is dedicated to educating and informing the reader with pertinent State technology news. Materials may be reproduced without permission. Alternative accessible formats of this document will be provided upon request.

Editorial Submissions

To submit an article to *ISD News & Views* for publication, please send it to Trapper Badovinac, preferably via ZIP!. Please have your article in by the 8th of the month for inclusion in the following month's newsletter.

ISD Customer Support Center

Have a problem (opportunity)? Do you need ISD assistance for any of your information processing requirements? Then contact the ISD Customer Support Center (444-2000), which is our central point of contact.

Subscription Services

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Distribution Notes

750 copies of this public document were printed at a cost of $465. Distribution costs are $18.25. 128 copies of this document were distributed electronically at no cost.

Editor

Trapper Badovinac (444-4917), ZIP! or e-mail at tbadovinac@mt.gov. Layout: Diana MacDonald (444-3170), ZIP! or e-mail at dmacdonald@mt.gov.

6127

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